



**Planning Panels Victoria:
Greater Geelong Planning Scheme
Amendment C395**

Geelong Settlement Strategy

Commissioned by Wallington Landowners including the following properties:

222–226 Rhinds Road, Wallington (Lot 6 on LP149935), 41–99 Sproules Road, Wallington (Lot 3 on LP116663), 101–149 Sproules Road, Wallington (Lot 1 on TP246062), 42–90 Sproules Road, Wallington (Lot 1 on LP206030), 82–84 Rhinds Road, Wallington (CP170394), 112–150 Sproules Road, Wallington (Lot 1 on TP212985) and 82–84 Rhinds Road, Wallington (CP164534)

Expert Witness Statement

Lincoln Kern, Ecological and Bushfire Risk Consultant

21 October 2019

Practical Ecology

PO Box 228 Preston Victoria 3072 Office: 2B Stott Street Preston Victoria p 03 9484 1555 f 03 9484 9133
e enquiries@practicalecology.com.au www.practicalecology.com.au

Qualifications and Experience of Lincoln Kern

I am a trained ecologist with a Bachelor's Degree in Biology and Environmental Studies (completed in 1986 with field studies in Pacific Northwest USA, Southwest USA, India and Central America) from Antioch College in Yellow Springs, Ohio, USA, and a Graduate Diploma in Environmental Management (1998) from Deakin University, Victoria. In addition, I have been involved in environmental planning, ecological restoration and bushfire risk management for 26 years in Victoria through positions with the National Trust of Australia (Victoria) (1991–93), Greening Australia Victoria (1992 including organising a series of field days on reconciling fire risk and native vegetation management), as a supervisor for labour market programs (part-time 1993–94) and through Practical Ecology P/L, formed in 1993. I also worked in 1998 as Environmental Planner for Wellington Shire Council in Gippsland where I assessed many native vegetation clearing applications, developed the Shire's roadside vegetation management plan and participated in developing the municipal fire plan.

As owner and manager of Practical Ecology P/L I manage and implement extensive contract works, ecological consulting and bushfire risk management projects. The work has included designing work programs and managing crews implementing ecological restoration works such as weed control projects in remnant vegetation, terrestrial and wetland revegetation projects. I have also written many management plans for bushland reserves across metropolitan Melbourne and dozens of flora and fauna assessments and land management plans for bush blocks in municipalities across Victoria. In addition, I have produced or coordinated many dozens of ecological and bushfire reports on a wide range of projects, from urban and rural subdivisions to houses on rural bush blocks. I have also coordinated the investigation of several incidents of illegal clearing for Councils and the Victorian Department of Environment.

My expertise in fire ecology and fire risk management is based on training in fire ecology through my academic training, a formal course in applying the Wildfire Management Overlay in 2005, ongoing training since that time including the University of Technology Sydney's Development and Planning in Bushfire Prone Areas short course completed in Victoria in November 2013 and most recently training in planning prescribed fire and fire suppression. I have coordinated many bushfire management plans and wildfire management statements and stayed up to date with fire risk assessment techniques through project work, liaison with fire management authorities and attending relevant national conferences.

As manager of Practical Ecology, I have designed and implemented hundreds of restoration projects, flora and fauna surveys and planning assessments across Melbourne and Victoria. I have also developed particular experience in developing property management plans for bushland properties that reconcile development, bushfire risk and native vegetation protection through negotiating with many land owners over several years.

In summary, my expertise is in reconciling planning law and objectives and the assessment and management of native vegetation and bushfire risks. Over time I have taken extensive knowledge of vegetation, ecology and bushfire and combined it with knowledge and experience of the planning system gained through training and experience. My detailed CV is attached at the end of the statement.

Instructions to Lincoln Kern

I was commissioned by the Best Hooper on behalf of the informal group Wallington Landowners with the following properties investigated:

222–226 Rhinds Road, Wallington (Lot 6 on LP149935), 41–99 Sproules Road, Wallington (Lot 3 on LP116663), 101–149 Sproules Road, Wallington (Lot 1 on TP246062), 42–90 Sproules Road, Wallington (Lot 1 on LP206030), 82–84 Rhinds Road, Wallington (CP170394), 112–150 Sproules Road, Wallington (Lot 1 on TP212985) and 82–84 Rhinds Road, Wallington (CP164534)

I was specifically requested to address the following question:

- Are there constraints on potential land development because of the presence of native vegetation, fauna habitat and/or bushfire risk?

I considered this question by:

- Conducting a preliminary survey of native vegetation and indigenous habitat values on the land by identifying and mapping habitat zones of native vegetation, Large Old Trees by species within habitat zones of native vegetation and as scattered trees (as per the *Guidelines for the removal, destruction or lopping of native vegetation*), as well as areas of different types of potential habitat for indigenous fauna as appropriate to map and identify including shelterbelts of planted natives and other sites as wetlands.
- Mapping current fuel loads according to the Bushfire Construction Standard AS3959.

After collecting the above data, I considered the possible constraints to rural residential and/or residential development by considering the following questions:

- Is there significant native vegetation and indigenous habitat that may need to be retained within a typical development proposal?
- Is the significant native vegetation and indigenous habitat at a density or layout that may constrain development?
- What are the required mechanisms for assessing and responding to bushfire risk for the possible development?
- Can the level of bushfire risk be reduced to an acceptable level without impacts on high conservation native vegetation under the relevant planning provisions if any development is considered?
- Any recommendations for future planning?

Documents and other materials considered

This statement will summarise my expert opinion on relevant issues as investigated, discussed and documented in the statement below. I have reviewed all of the relevant following planning and associated documentation.

Planning Documents:

Review of relevant planning documents for Amendment C395 – Settlement Strategy and Northern & Western Geelong Growth Areas as accessed on the City of Greater Geelong website:

<https://www.geelongaustralia.com.au/amendments/item/8d6f0bcb1cec127.aspx>

Greater Geelong City Council (9 October 2018). *Settlement Strategy – Consideration of Submissions and Adoption of Final Strategy. Minutes of Community Focus Council Meeting.*

Bushfire Planning (29 May 2019). *Bushfire Planning Assessment – Greater Geelong Amendment C395 (part).* Prepared for City of Greater Geelong.

Greater Geelong City Council (28 October 2019). *Greater Geelong Planning Scheme Amendment C395 – Settlement Strategy and Northern and Western Geelong Growth Areas Framework Plan – Part A Submission to the Independent Panel.*

Statement of Expert Evidence

1. INTRODUCTION, APPOINTMENT AND METHODOLOGY

- 1.1 I was commissioned by Best Hooper on behalf of the Wallington Landowners group on 25 October 2019 to consider the issue of potential constraints on possible rural residential and/or urban development on the 10 properties included in the group and resulting study site. Local indigenous and introduced native vegetation and the current fuel loads were mapped to consider the possible constraints on development based on native vegetation and bushfire risks. I will discuss each issue with some background discussion below.
- 1.2 I inspected the site on 30th October 2019 and was able to access relevant areas of each property and inspect all areas of the properties that clearly had native vegetation present, which was mostly trees in any event as very little indigenous ground storey was present. Many large areas such as wheat fields, vineyards, improved pasture etc clearly had no native vegetation present and were not extensively searched. I was also able to consider the local landscape around the property and assess fuel loads on and around the properties as per the required procedure under the Bushfire Construction Standard AS3959.

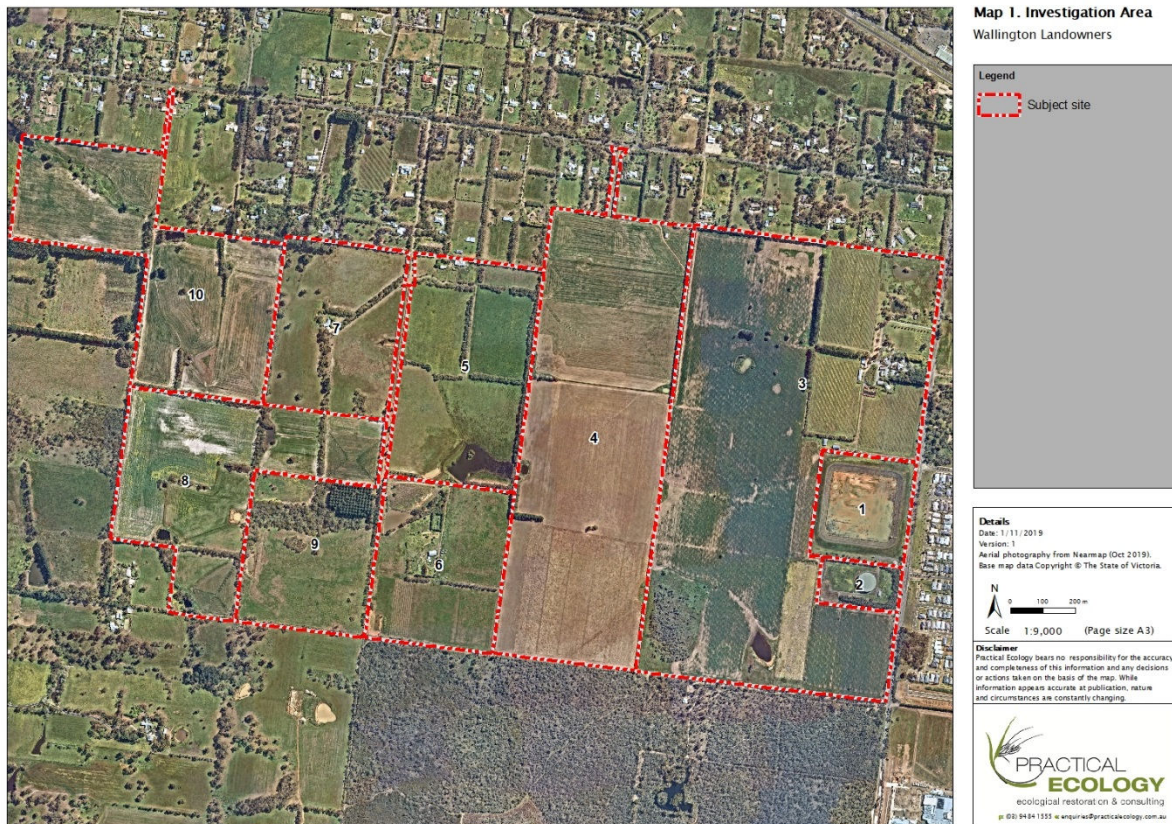


Figure 1. Investigation Area.

2. ECOLOGICAL ASSESSMENT

- 2.1 The first task I addressed was determining the presence or otherwise of native vegetation on the site. This section will detail the methods I used and the background information that was used to assess the site.
- 2.2 The site was inspected on Wednesday 30 October 2019 with the aim of assessing and documenting any native vegetation present using assessment methods required under Clause 52.17 as per DELWP's *Guidelines for the removal, destruction or lopping of native vegetation* (December 2017). A flora survey was undertaken to determine the flora species present and if any recorded species are considered rare or threatened; the species were limited and is not included in this statement but an analysis of the significant species present was undertaken and only those considered significant are discussed below. Habitat Zones and Scattered Trees were identified and the cover of native vegetation was assessed to determine if there were any areas of 25% or greater understorey cover or stands of three or more trees that may be affected by the proposed development. Large Old Trees were mapped wherever they were observed as they are such an important and significant habitat feature.
- 2.3 It was found that most of the patches of local indigenous trees present did qualify as Habitat Zones because they often had 3 or more remnant trees touching canopies but were in almost all circumstances dominated by exotic groundstorey. There was little variation between most of them and most would generally have had a relatively low Habitat Score, likely between 20 and 40 points. It was also found that many of the remnant indigenous trees were Large Old Trees whether they were in Habitat Zones or paddock. Habitat Scoring was not done to save time and more time was invested in mapping and documenting the Large Old Trees, which were the most important habitat component present in any event.
- 2.4 The majority of the properties investigated were cleared of native vegetation and farming of wheat, vines or pastures for grazing sheep or cattle is the dominant activity. Remnant native vegetation is the most significant ecological value present but there was also many shelterbelts and boundary plantings present, most relatively well established. They tended to fall into two categories, either a variety of mixed natives and indigenous species or simple lines of introduced eucalypts. These native plantings were mapped as well because they represent trees and shrubs as habitat and amenity plantings and they are less significant than remnant native vegetation but still important to consider in development processes.
- 2.5 Mapping was done using aerial photographs, a hand-held GPS unit and a photography app called Theodolite that records photos with position data. If a patch of trees or other vegetation was observed it was marked on the aerial photos and digitised later. Large Old Trees were recorded by GPS unit, taking photos embedded with position data and/or simply marked on the aerial photo.
- 2.6 The site occurs in the Otway Plain Bioregion and the Corangamite Catchment Management Authority region.

2.7 Naturekit on DELWP website was used to determine the likely Ecological Vegetation Class (EVC) present. Only EVC 175 Grassy Woodland was modelled in the local area. Only on-site assessment will determine the actual presence of native vegetation and the EVCs present. EVC 175 Grassy Woodland was found to be the most widespread EVC but EVC 83 Swampy Riparian Woodland was also present in the drainage lines. Both of these EVCs would be considered Endangered in the Otway Plain less than 10% of the original extant remains in the predominantly cleared Otway Plain bioregion.

3. RESULTS: ECOLOGICAL VALUES PRESENT

3.1 Figure 2 below indicates the extent of native vegetation across the properties owned by the Wallington Landowners.

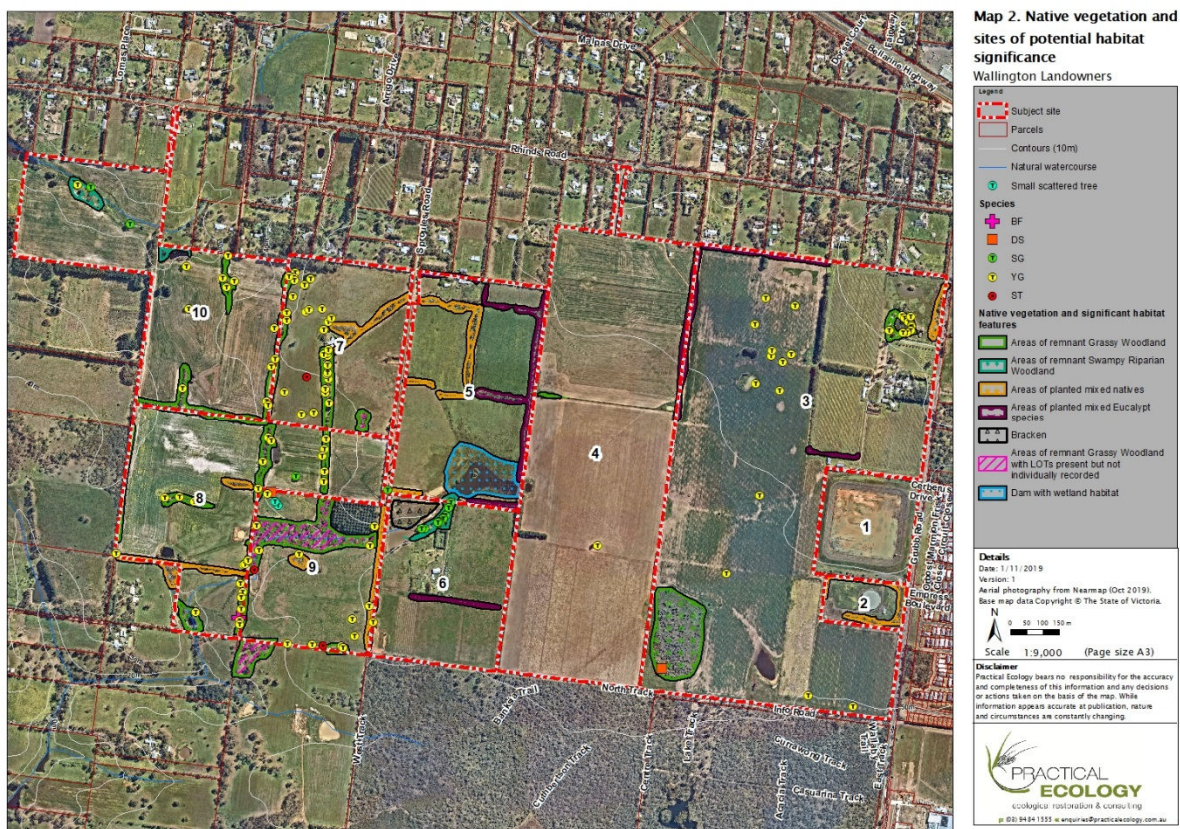


Figure 2. Ecological values on the site in areas of proposed development

3.2 It was found that the vast majority of the properties investigated were dominated by exotic vegetation, mostly being wheat, introduced pasture, vines etc with a small area of homes and surrounding domestic zones.

3.3 The most significant native vegetation present is the Bellarine Yellow Gums scattered across paddocks and through several of the old lines of timber along shelterbelts. This species is considered to be of State level significance as it is listed under the Victorian Flora and Fauna Guarantee Act as endangered. The distribution of this taxa is limited to the Bellarine Peninsula and it would have been part of EVC 175 Grassy Woodland, which is also considered Endangered with less than 10% extant in the Otway Plain

bioregion. Most of the original extent of the Bellarine Yellow Gum and associated EVC 175 Grassy Woodland has been cleared for agriculture and urban development mostly leaving old paddock trees, often stressed by agricultural activity around them. This was detailed in the *FFG Action Statement: Bellarine Yellow Gum – No 180* (2003) and it is certainly true for the study site although many of the specimens that remain are also in old fence lines being used as shelterbelts in effect and sometimes with additional native or indigenous plantings. A couple patches of Bellarine Yellow Gums on property 9 were fenced off from stock 10–15 years ago and significant regeneration of the same species and other shrubs and grasses have occurred.

- 3.4 Most of the Bellarine Yellow Gums present on the study site are Large Old Trees. The many Large Old Trees have the important habitat components typical of the age class, including hollows and barks slabs as well significant food resources in the form of flowers and lerps. Trees of this size class are of special significance because of the significant historic and ongoing loss of old trees in general across Victoria and Australia. In addition, if they could be used as the core of any new restoration activities, they would provide the critical habitat components, hollows in particular, that only start forming in eucalypts when they reach 80 years old.



Figure 3. Examples of Bellarine Yellow Gums *Eucalyptus leucoxylon ssp. bellarinensis* as a paddock tree and along an old fence line.

- 3.5 The second EVC present is EVC 83 Swampy Riparian Woodland. This EVC occurs in the drainage lines on properties no. 5, 6 and 10. It is dominated by Swamp Gum *Eucalyptus ovata* and occurs in low energy drainage lines. The examples on the study site are

simply stands Swamp Gums with disturbed understoreys dominated by exotic vegetation. The Swamp Gums are mostly Large Old Trees as well and this EVC would also be considered Endangered because less than 10% of the original extant remains in the Otway Plain bioregion.



Figure 4. Examples of Swamp Gums on property no. 10. On the left is a large patch on the drainage line and on the right are Swamp Gums around a dam, both on property 10.

- 3.6 There were a few other areas of possibly significant habitat. The northwest corner of property 6 contains a patch of Bracken *Pteridium esculentum* and a few different indigenous shrubs; it isn't particularly diverse habitat at the moment but could provide an excellent basis for restoration since most weeds are already controlled and Bracken can be excellent nursery plant. The southwest corner of property 5 also contains a large dam with much wet shallow, wetland habitat on its edges which is very likely good habitat for various migratory birds.
- 3.7 The other areas of habitat on the study site are the planted shelterbelts scattered across the entire site. These shelterbelts are quite diverse in their design and composition but do fall into two general categories, i.e. mixed plantings of native and indigenous trees and shrubs versus simple lines of eucalypts introduced to the site. These areas are not particularly significant and some would likely not even require a planning permit for removal but they are providing habitat for native fauna and would be useful to include plan any rural residential development around or in open space in areas where urban development is considered.

- 3.8 Overall a limited number of indigenous flora species were observed and recorded with all but one being common and secure species. The only significant flora taxa observed was Bellarine Yellow Gum.
- 3.9 Although I was not able to directly consider the potential habitat of any threatened fauna species on the study site, I can make some general judgements about potential habitat. With the majority of the site having been modified for agriculture or homes there would be very little habitat for any threatened fauna species. The old Bellarine Yellow Gums are not just significant in themselves but also possibly represent good sources of food and habitat for local native fauna possibly including threatened species. The sprinkling of dams around the study site would also provide habitat for migratory water birds, many of which would be listed under the EPBC Act, particularly because of their proximity to the large lakes on public land to the west of the study site.
- 3.10 It has been possible to determine the extent of native vegetation present and identify the most significant ecological assets. The most significant ecological values are the many Bellarine Yellow Gums in the study site, both as patches and paddock trees. The big Swamp Gums and dams along drainage lines also represent important habitat but would also be protected to some degree in any development scenario because drainage lines are usually protected from development. The next section will discuss the implications on development options that may be considered for the site.

4. ECOLOGICAL VALUES – IMPLICATIONS FOR DEVELOPMENT

- 4.1 As stated above the majority of the study is dominated by exotic vegetation and various agricultural crops and systems. This generally means that some form of development could occur without significant impacts on indigenous flora and fauna. The study site neatly splits into two conditions roughly between the western and eastern halves, with different implications for potential development options.
- 4.2 The western half of the site has the majority of remnant native vegetation and habitat values on the study site but the footprint of these ecological assets is still a small proportion of the overall land area. In addition, under current conditions these ecological values are still being degraded through legal agricultural activities rather than being conserved effectively. There are larger patches of indigenous habitat patches and areas with higher densities of Bellarine Yellow Gums on properties 5, 6, 7, 9 and 10.
- 4.3 It would be possible to place either rural residential or residential/urban development on the western half of the site with minimal impacts on the ecological values with good subdivision design around the limited habitat. It is very often possible to enhance sparse ecological assets through development as well. If rural residential development was considered any lots and house sites would need to work around remnant vegetation and shelterbelts with good buffers for bushfire protection; using mechanisms such as building envelopes and land management plans would ensure ecological values are protected and enhanced. If urban development was considered it would be important to have any planning provisions, either in the zoning or possibly overlays, require

protection and enhancement of the remnant habitats with incorporation into open space and ecological restoration to protect existing values and reconnect them.

- 4.4 The remnant native vegetation and other habitats in the western half of the site also represent an excellent opportunity to protect and enhance local habitat corridors connecting Ocean Grove Nature Reserve with the Lake Conneware reserve to the west whether or not development is considered. The western half of the site drains in two directions, with a small stream flowing northwest through property 10 and another flowing southwest through properties 6 and 9. Both of these streams flow into Lake Conneware to the west and protecting and enhancing the habitat along these drainage lines would provide strategic local habitat corridors.
- 4.5 If rural residential and/or urban development is considered then planning processes should incorporate protection and require enhancement of the ecological values through the creation of habitat corridors. These habitat corridors could be incorporated into integrated land management plans on rural residential lots or into open space in urban development along with buffers that can function as active open space and defensible space to protect adjacent development.
- 4.6 The eastern half of the site has much less remnant native vegetation and consequently much fewer constraints on development. It would be much easier to accommodate rural residential and/or urban development in this portion of the study site. I would still recommend that any planning provisions emphasise the importance of protecting the much more limited remnant native vegetation in this half of the study site.
- 4.7 In summary, with any future planning provisions incorporating protection and enhancement of remnant native vegetation and other habitat, development as rural residential or urban areas should be possible without significant impacts on the ecological values of the study site. With an integrated urban design process, respecting that significant remnant and habitat areas on the western half would likely need to be protected from development impacts, it would be possible to create the opportunity and resources to protect and enhance the ecological assets that are present.

5. BUSHFIRE RISK

- 5.1 The site is not covered by the Bushfire Management Overlay (BMO), except over the Ocean Nature Reserve and the required buffer, which means that neither the site nor the local area is considered to be at “high risk” of bushfire occurring as the BMO is only placed in areas of high risk as determined by the CFA and gazetted in Planning Schemes.
- 5.2 The entire study site is covered by Bushfire Prone Area (BPA) mapping which means that the site has been judged to have a moderate risk of bushfire. The required response to this level of bushfire risk is required to occur under the Building Act with a requirement that the appointed Building Surveyor obtain a Bushfire Attack Level (BAL) assessment and must ensure that the buildings are designed and built according to the BAL construction level determined in the BAL assessment.

- 5.3 There are also the general requirements for new developments, under Clause 13.02–15 of the Greater Geelong Planning Scheme, to ensure that bushfire risk is minimised. The provisions specifically require that any buildings can be built to BAL 12.5 bushfire construction level with the required buffers between buildings and areas of fuel loads, and that there be easy access to areas of BAL-LOW condition. This provision also requires assessment of the local and regional landscape to consider the risks from far beyond any particular development site.
- 5.4 The bushfire risks on the landscape scale and by extension down to the site scale are currently moderate at best. As the map of modelled remnant vegetation presented as Figure 2 and the aerial photo below illustrates the site is in a region with very little native vegetation, Low threat areas on the site and in the local area, mostly flat plains in close proximity and an extensive road network. All of these factors contribute to the current relative safety of the landscape, local area, neighbourhood and site and if rural residential or urban development is considered this moderate level of risk could be maintained and reduced through good subdivision design.

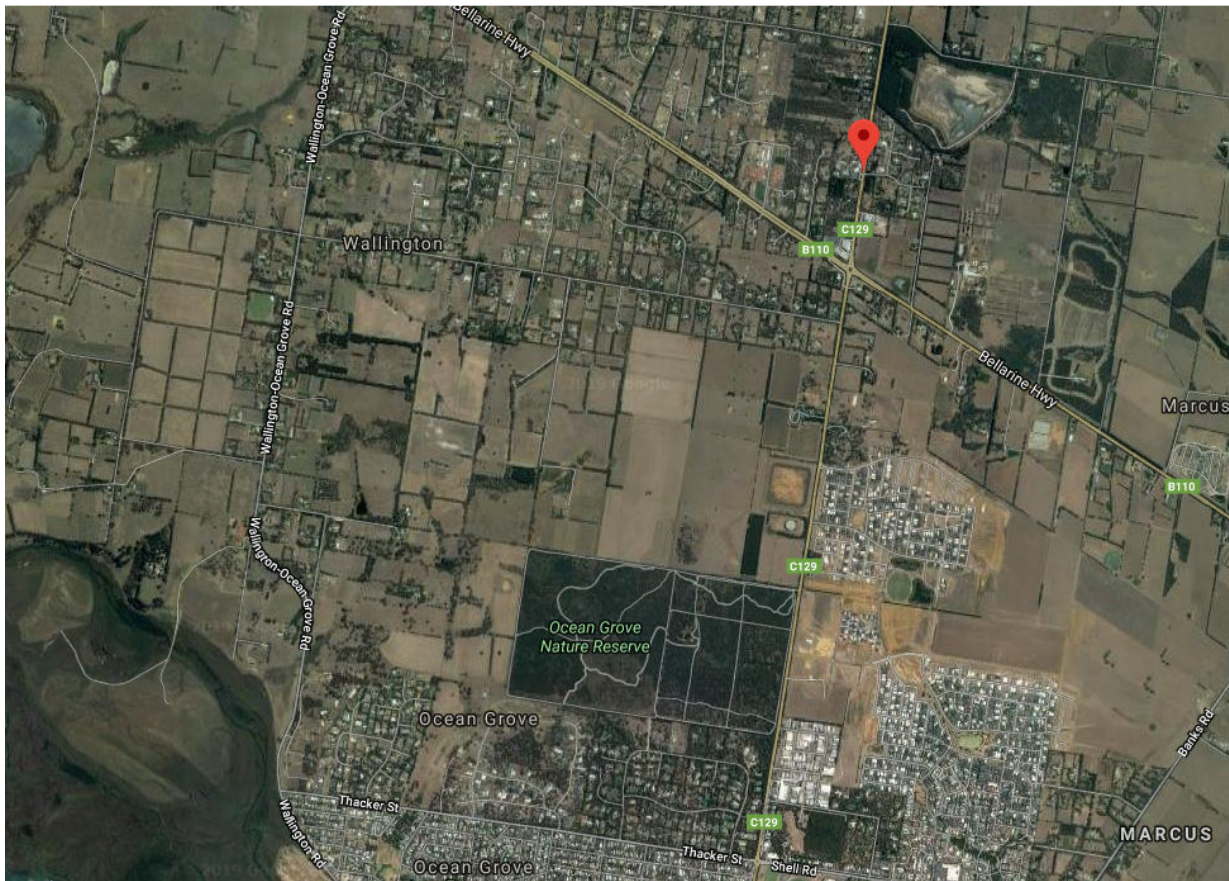


Figure 5. An aerial view of the local area.

- 5.5 After considering the local landscape issues I then considered the conditions on the study site itself plus a 150-meter buffer through mapping fuel loads as per the methodology in the Bushfire Construction Standard AS3959. The following map shows the results. The following plan indicates the results of that assessment.

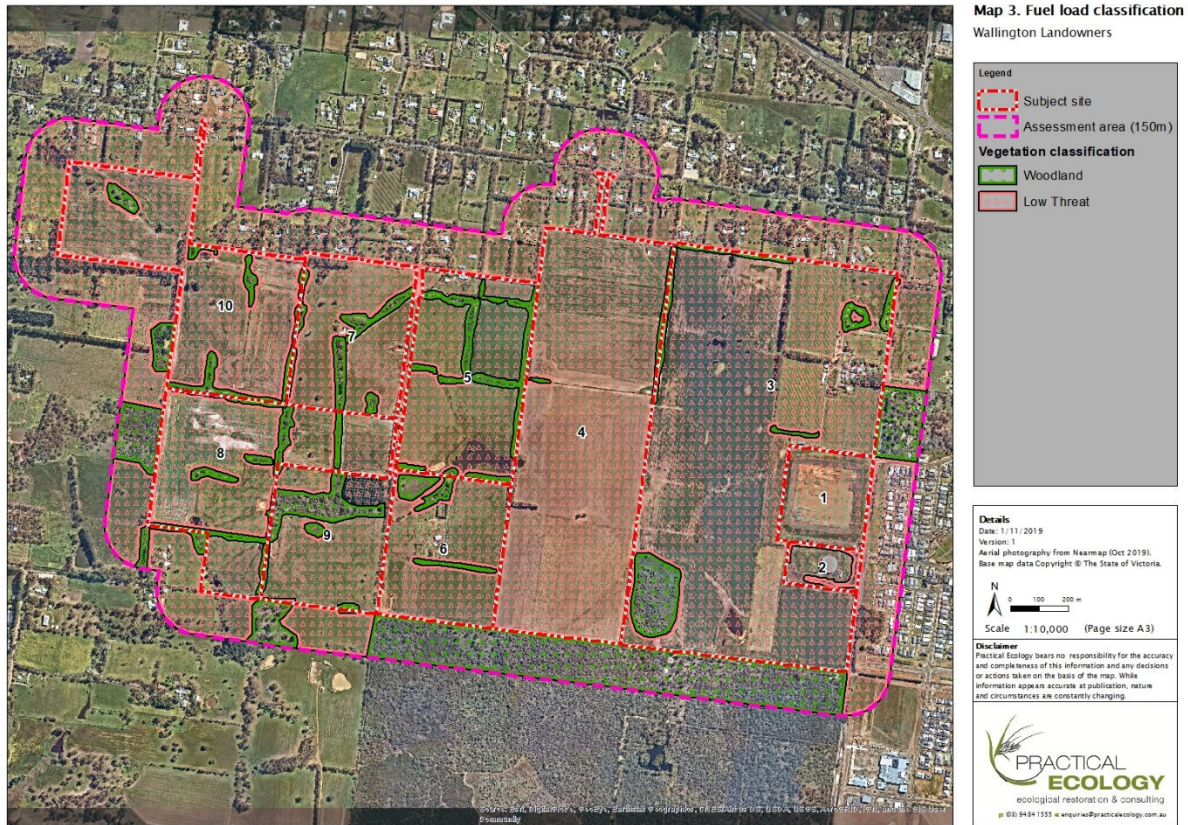



Figure 6. Fuel load assessment of the site and a 150 m buffer.

- 5.6 This map indicates that fuel loads are limited on the study site as it is currently farmed or used for rural residential uses. The majority of the study site and the buffer would be classified as Low Threat because it is intensively managed for agricultural, rural residential uses, commercial and/or infrastructural uses. Some of this Low Threat area of fuel loads could be possibly classified as Grassland fuel loads, particularly after the wet winter and spring we have had, but most of the year would be appropriately classified as Low Threat.
- 5.7 The scattered stands of trees and plantings across the study site as well as the Ocean Grove Nature Reserve are classified as Woodland fuel loads. If an assumption is made that all of these patches would be appropriate to retain in a rural residential and/or urban development scenario they would need to have buffers of at least 40–50 meters and possibly linking plantings to create habitat or open space corridors so that they can be effectively retained in any development options considered.
- 5.8 It is clear that with the limited areas of significant remnant native vegetation and other habitats that would represent Woodland fuel loads there would still be very substantial room for development, albeit more limited on the western half as opposed to the eastern half of the study site. Suitable buffers around remnant native vegetation and other habitats incorporating areas of grazing zones on private land or active open space in new urban reserves that can function as defensible space would be needed to ensure effective protection and enhancement of the important habitat over time.

5.9 In the substantial areas of Low Threat fuel loads across the study site there would be ample room to design rural residential or urban areas that would not be subject to undue bushfire risks as Clause 13.02-1S requires. The tools to create these areas of BAL 12.5 buildings would include components such as open space with defensible space around protected habitats (i.e. fuel loads), perimeter roads and central access roads to leave the site safely. With the often-generous areas in between remnant native vegetation and other habitats there will be ample room to design development that is more than adequately safe from bushfire risks.

Overall Conclusions

- 5.10 It was found that there were limited areas of remnant native vegetation and other habitats on the site. However, significant patches and quantities of Bellarine Yellow Gums were recorded. This species is considered endangered under the FFG Act and the Large Old Trees of this species on the study site represent a very significant ecological value, albeit limited to small areas of the study site. There is unlikely to be other significant flora and fauna species or their habitat beyond some migratory birds on the site because of the substantial modifications that have occurred over time through agricultural use.
- 5.11 The remnant native vegetation and other habitats on the site do not represent any major constraints on development because of the limited areas where they occur. It would be important to incorporate clear provisions protecting the extant habitats and requiring the enhancement of habitat corridors mostly along drainage lines to ensure that the important remnants, particularly on the western half, are protected within any potential development.
- 5.12 The bushfire risks on the site can be effectively reduced to an acceptable level through effective design of any development even when an assumption is made that all remnant native vegetation or habitats are protected and buffered.
- 5.13 Finally, I have made all the inquiries that I believe are desirable and appropriate and that no matters of significance that I regard as relevant have to my knowledge been withheld from the Panel.



Lincoln Kern, Ecological Consultant and Managing Director Date: 1 November 2019

Curriculum Vitae: Lincoln Kern

Date of Birth 1 February 1963

Lincoln was trained in botany and environmental science in the United States and has been working in the environmental field in Victoria on a full-time basis since 1991 including time with the Merri Creek Management Committee, the National Trust Save the Bush Program and Greening Australia Victoria. Lincoln has run Practical Ecology Pty. Ltd. since November 1993, offering an integrated service for managers of native vegetation and developers as required.

Lincoln has provided relevant and realistic management advice because he has extensive experience with costing, planning and doing the required physical works and sharing practical approaches to reconciling development and nature conservation objectives with staff and the public. He also specialises in devising vegetation management systems that are clear and useful to every person involved and interested in managing vegetation, whether amateur or professional.

Education

- April 2014** **Suppressing Wildfire and Planning Prescribed Burns**
Training required to work on a fire crew and implement prescribed burns accredited by Timber Training Creswick Pty Ltd – since this time I have participated in several prescribed burns.
- November 2013** **Design and Building Bushfire Prone Areas Course**
Week-long course run by University of Technology Sydney on preparing Bushfire Attack Level Assessments and Bushfire Management Statements and designing development and building in response to AS3959 and the relevant Victorian Planning Scheme provisions.
- November 2005** **Wildfire Management Overlay Implementation Course**
Week-long course sponsored by the Country Fire Authority to train people in designing developments to meet the requirements of the Wildfire Management Overlay in Victoria
- 1998** **Graduate Diploma of Applied Science (Environmental Management).**
Deakin University, Rusden Campus. Part-time: Begun February 1995 and completed in April 1998.
- 1992** **Bush Regeneration Supervisors Course**
Organised by National Trust, Victoria A course exploring management skills, the role of management plans and monitoring programs in bush regeneration.
- 1990** **Bush Regeneration Techniques Course**
Organised by National Trust, Victoria. A course emphasising plant identification and ecology and technical skills needed to manage bushland.
- Winter 1988** **Rainforest Field Studies**
Semester-long field course in Guatemala and Belize organised by University of California at Santa Cruz

February Permaculture Design Course

1987 Organised by Aprovecho Institute, Cottage Grove, Oregon USA and presented at Solala Agriculture College, Guatemala

1986 B.A. Antioch College, Yellow Springs, Ohio, USA

Major in Biology with course work in Botany, Environmental Studies, Anthropology and Education

Employment History

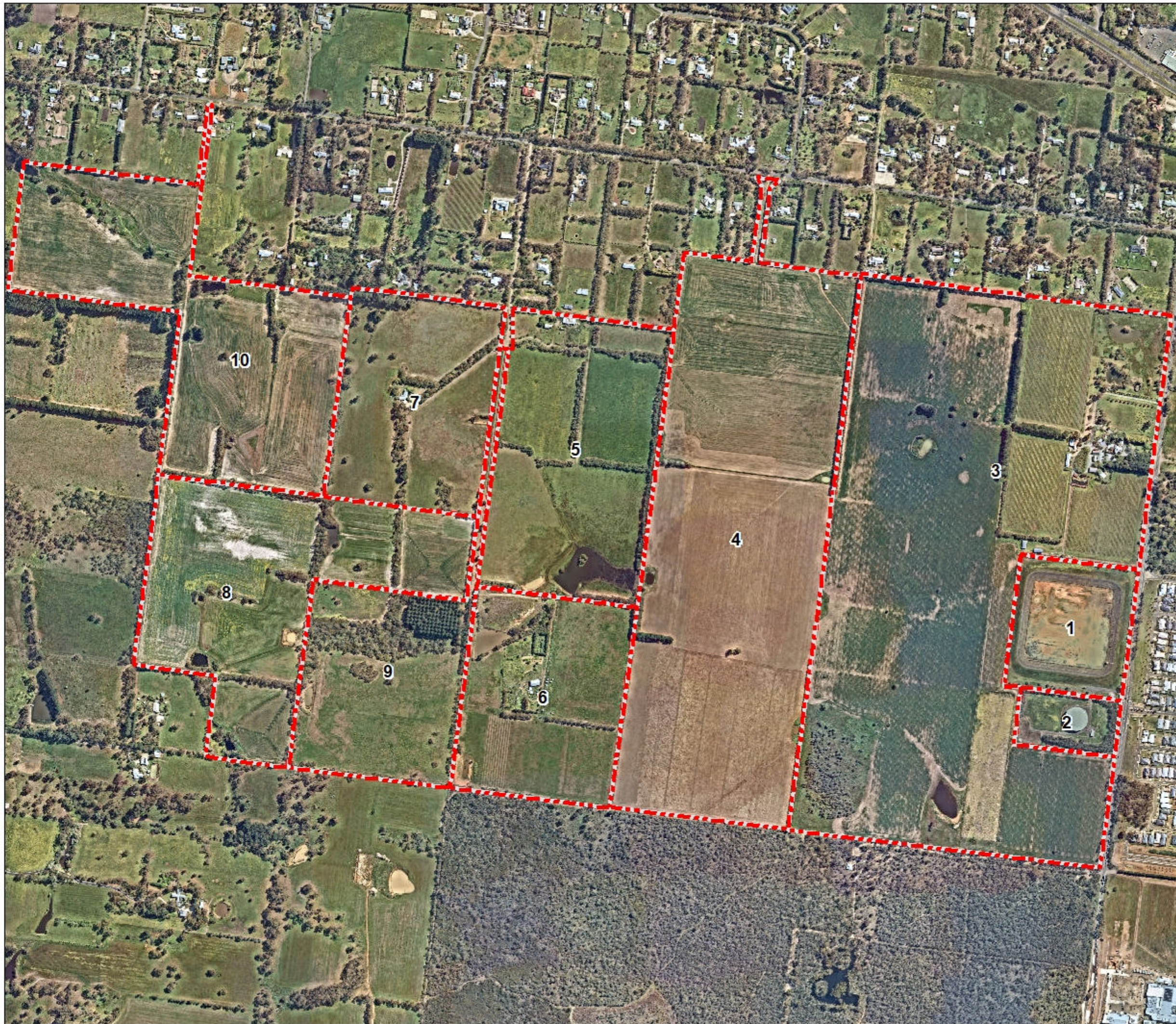
2007 to 2011	Governor-in Council Appointee on the Alpine Resorts Coordinating Council Responsible for contributing to general business, chairing the Sustainability Committee of the Council and attending Environmental Officer Forums
1993 to present – part-time from June 1998 to May 1999	Practical Ecology Pty. Ltd. – Ecological Consultant and Managing Director Consulting and contracting business specialising in native vegetation management. Services include: <ul style="list-style-type: none"> • vegetation management ecological restoration project designs • flora and fauna surveys & management plans • preparing bushfire management plans and wildfire management statements • coordinating planning processes requiring reconciliation of conservation and development objectives • expert witness representation at VCAT and Planning Panels • education services including plant ID, land management planning, net gain and planning policy etc • community group coordination and/or support • coordination of contract works including revegetation, wetland planting and remnant vegetation management
June 1998 to May 1999	Wellington Shire Council – Environmental Planner Provided environmental advice to Council and officers with roles in commenting on planning permits and developing a wide variety of environmental programs.
1993/94	Victoria University of Technology, Melton LEAP PROGRAM – Part time supervisor based at Taylor's Creek, Keilor. Supervision and formal training of program participants students in regeneration work in a suburban creek valley.
June 1991 – Nov 1993	National Trust 'Save the Bush' – Part time Technical Supervisor <ul style="list-style-type: none"> • Development of works programs for and supervision of bush regeneration crews • vegetation surveys • developing and presenting bushland management courses • working with community groups.
June 1992 – June 1993	Greening Australia Victoria – Part time Project Officer, Urban Program <ul style="list-style-type: none"> • Assessments for Parks and Waterways community grants • Conservation project advice to community groups

	<ul style="list-style-type: none"> • Coordination of education programs and community information days
May 1991 - June 2003	<p>Council of Adult Education – Casual Tutor</p> <p>Self developed and run short courses in:</p> <ul style="list-style-type: none"> • Natural history • Field botany • Organic gardening and permaculture
1991–92	<p>Merri Creek Management Committee – Revegetation Crew Member</p> <ul style="list-style-type: none"> • Site preparation and maintenance, • Direct seeding and tubestock planting • Remnant vegetation management.
1986 - 1989	<p>Biologist/Inspector – Foreign Fisheries Observer Program, National Marine Fisheries Service, Seattle, Washington USA. Monitoring the species, catch size and adherence to fishing regulations of foreign fishing vessels in American waters off of Oregon, Washington and Alaska</p>
1984	<p>Coordinator – Environmental Field Program Antioch College Science Institute, Yellow Springs, Ohio USA. As one of three coordinators, developed and implemented the curriculum and itinerary of a 3 month field program for adults in Arizona and New Mexico.</p>

6. LARGER FORMAT MAPS

Map 1. Investigation Area

Wallington Landowners



Legend

 Subject site

Details

Date: 1/11/2019

Version: 1

Aerial photography from Nearmap (Oct 2019).

Base map data Copyright © The State of Victoria.



Scale 1:9,000 (Page size A3)

Disclaimer

Practical Ecology bears no responsibility for the accuracy and completeness of this information and any decisions or actions taken on the basis of the map. While information appears accurate at publication, nature and circumstances are constantly changing.

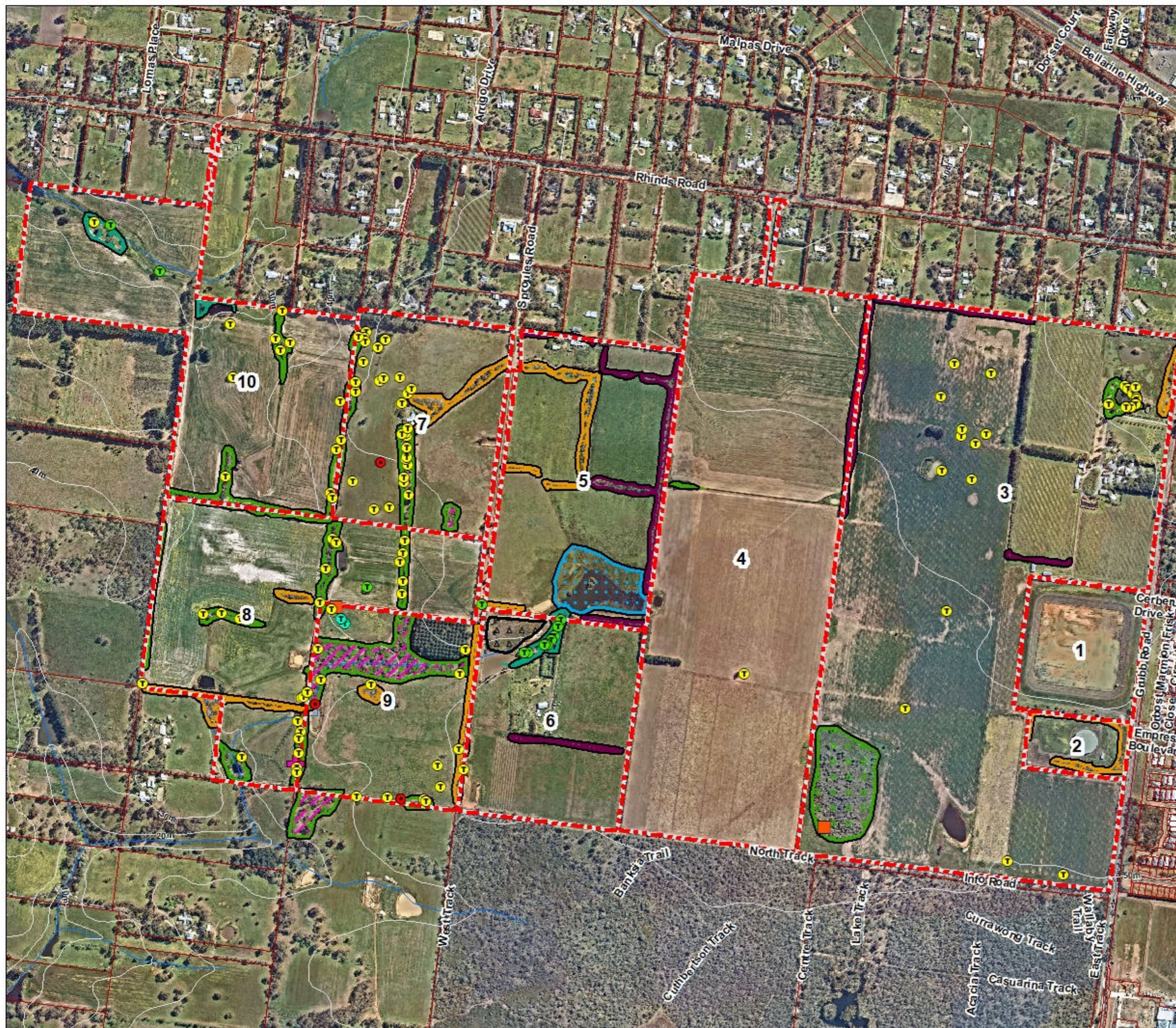


ecological restoration & consulting

ph (03) 9484 1555 enquiries@practical-ecology.com.au

Map 2. Native vegetation and sites of potential habitat significance

Wallington Landowners



Legend

- Subject site
- Parcels
- Contours (10m)
- Natural watercourse
- Small scattered tree

Species

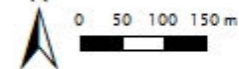
- + BF
- DS
- SG
- YG
- ST

Native vegetation and significant habitat features

- Areas of remnant Grassy Woodland
- Areas of remnant Swampy Riparian Woodland
- Areas of planted mixed natives
- Areas of planted mixed Eucalypt species
- △ △ △ Bracken
- Areas of remnant Grassy Woodland with LOTS present but not individually recorded
- Dam with wetland habitat

Details

Date: 1/11/2019
 Version: 1
 Aerial photography from Nearmap (Oct 2019).
 Base map data Copyright © The State of Victoria.

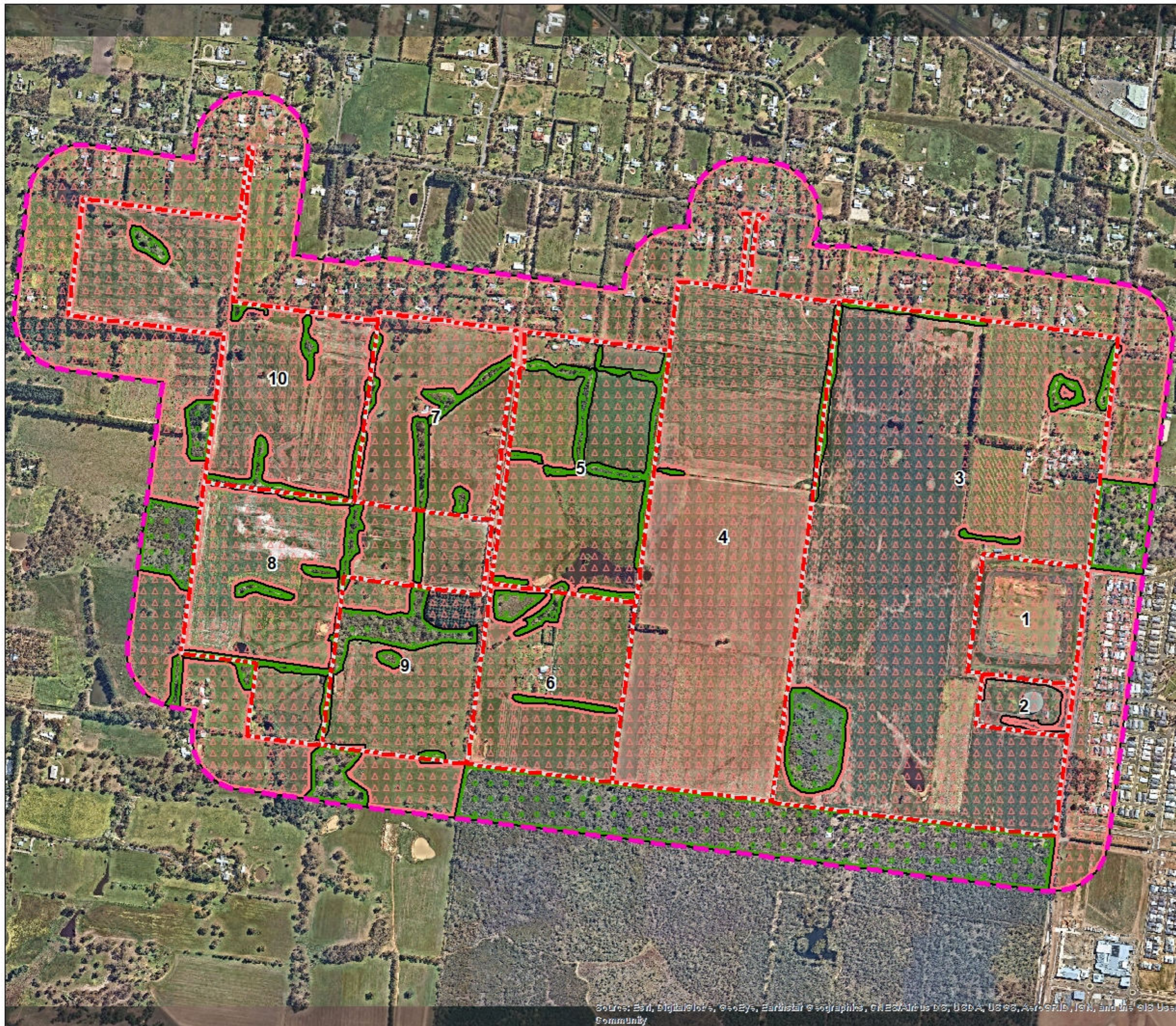
N

 Scale 1:9,000 (Page size A3)

Disclaimer
 Practical Ecology bears no responsibility for the accuracy and completeness of this information and any decisions or actions taken on the basis of the map. While information appears accurate at publication, nature and circumstances are constantly changing.


**PRACTICAL
 ECOLOGY**
 ecological restoration & consulting
 p: (03) 94 84 1555 e: enquiries@practical-ecology.com.au

Map 3. Fuel load classification

Wallington Landowners



Legend

- Subject site
- Assessment area (150m)

Vegetation classification

- Woodland
- Low Threat

Details

Date: 1/11/2019
Version: 1
Aerial photography from Nearmap (Oct 2019).
Base map data Copyright © The State of Victoria.

N
0 100 200 m
Scale 1:10,000 (Page size A3)

Disclaimer
Practical Ecology bears no responsibility for the accuracy and completeness of this information and any decisions or actions taken on the basis of the map. While information appears accurate at publication, nature and circumstances are constantly changing.

PRACTICAL ECOLOGY
ecological restoration & consulting
p: (03) 9484 1555 e: enquiries@practical-ecology.com.au

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community